

**AMENDMENTS TO THE CLAIMS**

The following listing of claims will replace all prior versions and listings of claims in the application.

**LISTING OF CLAIMS**

1. (currently amended) A method for controlling the engine operation of an internal combustion engine having a control unit for communicating with a crankshaft, the crankshaft rotatable through an engine cycle defining a plurality of engine positions, said method comprising the steps of;

extrapolating the plurality of engine positions with the control unit into a reduced resolution of engine positions defining a collection of data groups;

assigning each of said collection of data groups to one of a plurality of functions defined by data bits arranged within the control unit;

operating the engine;

reading said data groups with the control unit at each of the reduced resolution engine positions; and

performing said corresponding function defined by said data bits according to the related collection of data groups read by the control unit.

2. (original) The method for controlling engine operation according to claim 1, wherein said data bits are arranged in the form of a lookup table.

3. (original) The method of controlling engine operation according to claim 2, wherein said engine cycle is defined by 720 degrees of crankshaft rotation.

4. (original) The method of controlling engine operation according to claim 3, wherein said reduced resolution includes a plurality of separate smaller groupings of crankshaft rotation which as a whole comprise 720 degrees of crankshaft rotation.

5. (original) The method of controlling engine operation according to claim 4, wherein each of said plurality of separate smaller groupings of crankshaft rotation are of equal proportions.

6. (original) The method of controlling engine operation according to claim 5, wherein said equal proportions include 10 degrees of crankshaft rotation.

7. (original) The method of controlling engine operation according to claim 1, wherein one of said plurality of functions includes an interrupt function.

8. (original) The method of controlling engine operation according to claim 1, wherein one of said plurality of functions includes a period capture function.

9. (original) The method of controlling engine operation according to claim 1, wherein one of said plurality of functions includes a generate pulse function.

10. (original) The method of controlling engine operation according to claim 1, wherein one of said plurality of functions includes an accumulate period data function.

11. (original) The method of controlling engine operation according to claim 1, wherein one of said plurality of functions includes a transfer working register function.

12. (currently amended) A method for controlling operation of an engine having a crankshaft rotatable through a plurality of engine positions of an engine cycle, comprising the steps of:

extrapolating the plurality of engine positions with a control unit into reduced resolution engine positions defining a plurality of data groups

[[dividing the engine cycle into a plurality of data groups, each of said plurality of data groups corresponding to a portion of the engine cycle]], each of said plurality of data groups corresponding to a table having a series of functions;

detecting a crankshaft position during engine operation; and

performing said series of functions of said data groups when said detected crankshaft position is in a corresponding portion of the engine cycle.

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13. (original) The method for controlling engine operation according to claim 12 wherein said table includes a collection of data bits corresponding to said series of functions.

14. (original) The method of controlling engine operation according to claim 12, wherein said engine cycle is defined by 720 degrees of crankshaft rotation.

15. (original) The method for controlling engine operation according to claim 12 wherein each of said plurality of data groups define equal portions of crankshaft rotation.

16. (original) The method for controlling engine operation according to claim 15 wherein said engine cycle is defined by 720 degrees of crankshaft rotation.

17. (original) The method for controlling engine operation according to claim 15 wherein said equal portions of crankshaft rotation is 10 degrees.